

Islet cell transplantation after pancreas removal may help preserve normal blood sugar

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Surgery to remove all or part of the pancreas and then transplant a patient's own insulin-producing islet cells appears to be a safe and effective final measure to alleviate pain from severe chronic pancreatitis and to help prevent surgically induced diabetes, according to a report published online by *JAMA Surgery*.

Chronic pancreatitis (CP) is an inflammatory disease that over time leads to loss of function of the pancreas and manifests with intractable [pain](#), malabsorption and diabetes. While medical management and pain control are the initial approaches to CP, some [patients](#) need to undergo more invasive procedures to relieve ductal pressure in the pancreas. If those measures fail, surgical options can include total removal of the pancreas (total pancreatectomy, TP) or the Whipple procedure to remove part of the pancreas. Total pancreas removal produces diabetes because insulin-secreting cells are removed. Autologous islet transplantation (AIT) was first described in the 1970s as a potential way to preserve normal [blood glucose levels](#) after near-total or total pancreas removal. However, few medical centers worldwide offer such treatment for patients with CP, according to background information in the study.

Denise S. Tai, M.D., of the University of California, Los Angeles, and co-authors examined the outcomes of nine patients (5 male) who underwent pancreatic resection and AIT at the UCLA Center for Pancreatic Diseases between March 2007 and December 2013. It was a two-center collaboration with the University of California, San Francisco, handling isolation of the [islet cells](#) from the pancreatic tissue after removal.

Results show that eight of nine patients had successful procedures to isolate islet cells after

their total or partial [pancreas](#) removal. Two of the patients did not require insulin and one required a low dose. All nine patients had less pain or were pain free two months after surgery.

"Pancreatic resection with AIT for severe CP is a safe and effective final alternative to ameliorate debilitating pain and to help prevent the development of surgical [diabetes](#). It is practiced at only a few specialized centers worldwide because of the need for multidisciplinary coordination and care of these patients. ... However, with the practice of geographically remote islet isolation by means of institutional collaboration, many more patients with CP may have access to and may greatly benefit from this procedure," the authors conclude.

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